LOW-MOISTURE, REDUCED-FAT, LIPID-BASED FILLINGS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of priority to U.S. Provisional Application Serial No. 60/242,608, filed Oct. 23, 2000, which is herein incorporated by reference.

TECHNICAL FIELD

[0002] The present invention relates to lipid-based fillings. More specifically, it relates to lipid-based fillings that have reduced fat and low moisture.

BACKGROUND OF THE INVENTION

[0003] Lipid-based fillings are used to produce a variety of food items. For instance, sandwich cookies and crackers are very popular food items in which lipid-based fillings are used. Typically, two identical biscuits (the shells or base-cakes) contain a layer of sweet or savory fat lipid-based filling. There are many variations on this basic type. For example, the shells may be dissimilar in shape or color and one shell may have a hole or holes through which the lipid-based filling can be seen. The sandwich may be formed with wafer sheets and have multiple layers of lipid-based filling between the wafers. Lipid-based filling sandwich biscuits may be enrobed with a chocolate or other coating.

[0004] The control of water activity (Aw) in a food product can enable the food product to resist spoilage and maintain a fresh taste and mouthfeel. The water activity of a food, or a food subsystem thereof, is a useful measurement of the degree of "freeness" of water contained in the food. The relatively high water activities that are associated with many lipid-based fillings made by standard formulations permit microbial growth, moisture migration, and other problems to occur in the food product. Fillings with high water activities are, essentially, a medium for supporting microbial growth and, therefore, have limited shelf lives. In addition, fillings with high water activities generally allow water to migrate into the surrounding foodstuff. When the surrounding foodstuff is a material of significantly lower water activity, such as a baked dough, the migration of moisture into the baked dough can make the baked dough "soggy."

[0005] In Western countries, there is a general trend away from foods that are high in fat and calories, and decreasing dietary fats has been of special interest since fats have a significantly higher caloric density than either carbohydrates or protein. Hence, consumers have increasingly demanded food products with decreased caloric intake from fats.

[0006] Accordingly, it would be desirable to provide lipid-based fillings having reduced fat and low moisture.

SUMMARY OF THE INVENTION

[0007] The present invention provides reduced-fat, low-moisture lipid-based fillings. The lipid-based fillings can be used in a variety of food products. The low moisture, reduced fat, lipid-based filling comprises at least about 20% non-digestible lipid and other suitable optional ingredients. The filling has a water activity of less than about 0.6 and has at least about 20% less digestible fat than a comparable full-fat lipid-based filling.

[0008] In one embodiment, the filling is a cheese filling. The low moisture, reduced fat, lipid-based cheese filling comprises:

[0009] (a) from about 20% to about 60% non-digestible lipid;

[0010] (b) from about 20% to about 75% dehydrated cheese powder; and

[0011] (c) from about 0% to about 55% bulking agent.

[0012] Although not as preferred, in an alternate embodiment, the filling comprises at least about 20% lipid, wherein said lipid comprises: (1) from about 20% to about 100% non-digestible lipid; and (2) from about 0% to about 80% digestible lipid. In one alternate embodiment, the filling is a cheese filling comprising:

[0013] (a) at least 20% lipid, wherein said lipid comprises:

[0014] (1) from about 20% to about 100% non-digestible lipid; and

[0015] (2) from about 0% to about 80% digestible lipid;

[0016] (b) from about 20% to about 75% dehydrated cheese powder; and

[0017] (c) from about 0% to about 55% bulking agent.

[0018] The fillings of the present invention can be used with any suitable substrate to form a food product; alternatively the fillings can be used as a stand-alone food item.

DETAILED DESCRIPTION

A. DEFINITIONS

[0019] As used herein, "lipid-based filling" includes any filling comprising at least about 20% lipid.

[0020] As used herein, "reduced fat" means at least about 20% less digestible fat than a comparable full-fat lipid-based filling.

[0021] As used herein, "low moisture" means a water activity of less than about 0.6.

[0022] As used herein, "added lipid" refers to lipid which is added over and above that amount inherently present in the other ingredients.

[0023] As used herein, the term "lipid" refers to edible fatty substances in a general sense, including natural or synthetic fats and oils consisting essentially of triglycerides, such as, for example soybean oil, corn oil, cottonseed oil, sunflower oil, palm oil, coconut oil, canola oil, fish oil, lard and tallow, which may have been partially or completely hydrogenated or modified otherwise, as well as non-toxic fatty materials having properties similar to triglycerides, herein referred to as non-digestible fats, which materials may be partially or fully indigestible. Reduced calorie fats and edible non-digestible fats, oils or fat substitutes are also included in the term. Mixed triglycerides made from medium and long chain saturated and/or unsaturated fatty acids are also included in the term. See, for example, U.S. Pat. No. 5,288,512 to Seiden. Oils that contain medium